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On *Orsunius* V. Seven new species from Borneo and Vietnam (Coleoptera: Staphylinidae: Paederinae: Medonina)

With 37 figures

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Abstract

Seven species of *Orsunius* ASSING, 2011 are described and illustrated, six of them from Borneo and one from Vietnam: *Orsunius weigeli* spec. nov. (North Vietnam), *O. floreni* spec. nov. (Malaysia: Sabah), *O. flavoniger* spec. nov. (Malaysia: Sabah), *O. incitatus* spec. nov. (Malaysia: Sabah), *O. curvicollis* spec. nov. (Malaysia: Sabah), *O. tricolor* spec. nov. (Malaysia: Sabah), and *O. arboris* spec. nov. (Malaysia: Sabah). The genus now includes 31 named extant species distributed in the southern East Palaearctic, the Oriental, and the northern Australian regions.

Taxonomic acts

Orsunius weigeli spec. nov. – urn:lsid:zoobank.org:act:3FC7E25D-7142-44E8-9984-98DFB111CD3A
Orsunius floreni spec. nov. – urn:lsid:zoobank.org:act:BDE67BFF-E572-4FA8-8C47-18DE3CB5392F
Orsunius flavoniger spec. nov. – urn:lsid:zoobank.org:act:97D8ABCE-B7F1-4938-ADCD-9DB44E0FB507
Orsunius incitatus spec. nov. – urn:lsid:zoobank.org:act:8CBA3AE5-0757-46D2-89FD-5ABA7C41C319
Orsunius curvicollis spec. nov. – urn:lsid:zoobank.org:act:41682909-8821-42B8-B5B0-4E3B6653D674
Orsunius tricolor spec. nov. – urn:lsid:zoobank.org:act:0A219743-733A-4154-82EE-D6BA7A6581E1
Orsunius arboris spec. nov. – urn:lsid:zoobank.org:act:F3A3DD0D-3B71-4FE3-9D76-A8C5139E7AB2

Key words

Coleoptera, Staphylinidae, Paederinae, Medonina, *Orsunius*, taxonomy, new species, Oriental region, Borneo, Vietnam

Zusammenfassung

Sieben Arten der Gattung *Orsunius* ASSING, 2011, sechs von Borneo und eine aus Vietnam, werden beschrieben und abgebildet: *Orsunius weigeli* spec. nov. (Nordvietnam), *O. floreni* spec. nov. (Malaysia: Sabah), *O. flavoniger* spec. nov. (Malaysia: Sabah), *O. incitatus* spec. nov. (Malaysia: Sabah), *O. curvicollis* spec. nov. (Malaysia: Sabah), *O. tricolor* spec. nov. (Malaysia: Sabah) und *O. arboris* spec. nov. (Malaysia: Sabah). Die Gattung enthält damit derzeit 31 beschriebene rezente Arten, die in der südlichen Ostpaläarktis, der Orientalis, und der Australischen Region verbreitet sind.

Schlüsselwörter

Coleoptera, Staphylinidae, Paederinae, Medonina, *Orsunius*, Taxonomie, Neubeschreibungen, Orientalis, Borneo, Vietnam

Introduction

The medonine genus *Orsunius* Assing, 2011 previously included 24 named extant species distributed in the Oriental, southern East Palaearctic, and the Australian regions (Assing 2011, 2014, 2015, 2020). An updated key and a catalogue of the species known at that time were provided by Assing (2015). Not a single species was previously known from Borneo.

Since the latest contribution (Assing 2020), additional material of *Orsunius* has been examined, the majority of specimens and species collected by canopy fogging in North Borneo (Malaysia: Sabah) and the remainder from Vietnam. A study of this material revealed that the specimens represented nine undescribed species. Seven of them are described in the present paper. It should be noted, however, that the generic assignment of three of them is tentative. Two species remain undescribed for want of males.

Material and methods

The material treated in this study is deposited in the following public institution and private collection:

MNB Museum für Naturkunde, Berlin
cAss author´s private collection

The morphological studies were conducted using Stemi SV 11 (Zeiss) and Discovery V12 (Zeiss) microscopes, and a Jenalab compound microscope (Carl Zeiss Jena). The images were created using digital cameras (Axiocam ERc 5s, Nikon Coolpix 995), as well as Labscope and Picolay software.

Body length was measured from the anterior margin of the mandibles in resting position to the apex of the abdomen, the length of the forebody from the mandibles (in resting position) to the posterior margin of the elytra, head length from the anterior margin of the frons to the posterior constriction of the head, head width across and including the eyes, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra, and the length of the aedeagus from the apex of the ventral process to the base of the aedeagal capsule. The "parameral" side (i.e., the side where the sperm duct enters) is referred to as the ventral, the opposite side as the dorsal aspect.

Descriptions of new species

Orsunius weigeli spec. nov.

urn:lsid:zoobank.org:act:3FC7E25D-7142-44E8-9984-98DFB111CD3A
(Figs 1-2, 15-18)

Type material: Holotype ♂: "VIETNAM - Bac Giang, Tay Yen Tu Nat. Res., 6 km SW Than[h] Son, 21°10.83'N, 106°43.43'E, 200 m, 18-21.V.2015, leg. A. Weigel KS LFF / Holotypus ♂ *Orsunius weigeli* sp. n. det. V. Assing 2021" (cAss). Paratypes: 2 ♀♀ [1 without elytra]: same data as holotype (cAss).

Etymology: This species is dedicated to Andreas Weigel (Wernburg), collector of the type series, also in gratitude for the generous gift of numerous Staphylinidae from Vietnam.

Description: Body length 4.1–4.5 mm; length of forebody 2.2–2.3 mm. Habitus as in Fig. 1. Colouration: head blackish; pronotum reddish; elytra yellowish to reddish, with the posterior portion yellow and with a more or less distinct and more or less extensive infuscate band extending from the middle of lateral margins obliquely postero-mediad; abdomen blackish with the posterior margins of segments VII and VIII reddish; legs yellow; antennae reddish-yellow.

Head (Fig. 2) transverse, approximately 1.15 times as broad as long; lateral margins behind eyes parallel in dorsal view; posterior angles moderately marked; punctation very dense and umbilicate; interstices mostly forming narrow ridges, without microsculpture. Eyes rather large, as long as, or slightly longer than postocular portion in dorsal view. Antennae 1.2 mm long. Anterior margin of labrum deeply incised in the middle.

Pronotum (Fig. 2) 1.05–1.10 times as broad as long and slightly broader than head; punctation similar to that of head; midline with narrow impunctate band of variable length posteriorly; interstices without microsculpture.

Elytra (Fig. 2) slightly longer than pronotum; punctation fine and dense; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV distinctly dilated, without sexual dimorphism. Metatarsomere I as long as the combined length of metatarsomeres II and III, or nearly so.

Abdomen finely and densely punctate and pubescent; interstices with microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly concave in the middle.

♂: sternite VIII (Fig. 8) approximately as long as broad, with rather deep and broad V-shaped posterior excision;

aedeagus (Figs 15–17) 0.75 mm long; ventral process distinctly separated from median lobe, asymmetric, near base with pronounced spine-shaped process.

Comparative notes: Based on the similar external appearance (colouration; punctation; proportions) and particularly the similar male primary and secondary sexual characters, *O. weigeli* is undoubtedly very closely related to *O. excisus* Assing, 2011 (Taiwan, Thailand), from which the new species is distinguished by darker colouration (*O. excisus*: pronotum pale-reddish; elytral spot less distinct and less distinctive, or completely absent; abdominal segments VII–VIII extensively or completely yellow) and by the structure of the slightly larger aedeagus (*O. excisus*: aedeagus approximately 0.70 mm long; ventral process apically more strongly produced dorsad and with spine-shaped process in median position). For illustrations of the male sexual characters of *O. excisus* see Assing (2011).

Distribution and natural history: The type locality is situated in Northeast Vietnam at an altitude of 200 m. The specimens were collected with a light trap.

Orsunius floreni spec. nov.

urn:lsid:zoobank.org:act:BDE67BFF-E572-4FA8-8C47-18DE3CB5392F

(Figs 3–4, 19–21)

Type material: Holotype ♂: "Tawau Hills, My, N4 24.351 E117 53.523, Microcos antidesmifolia 60, A. Floren 06.09.2009 / Holotypus ♂ *Orsunius floreni* sp. n. det. V. Assing 2022" (cAss).

Etymology: This species is dedicated to Andreas Floren (University of Würzburg), who collected the material of this and the following species in a canopy fogging project in Sabah (Borneo).

Description: Body length 3.5 mm; length of forebody 2.0 mm. Habitus as in Fig. 3. Colouration: head and pronotum dark-brown; elytra reddish with the mediosutural portion diffusely darker; abdomen reddish-brown; legs yellowish red; antennae reddish.

Head (Fig. 4) weakly transverse, 1.05 times as broad as long; lateral margins behind eyes parallel in dorsal view; posterior angles moderately marked; punctation very dense and umbilicate; interstices mostly forming narrow ridges, without microsculpture. Eyes rather large, nearly as long as postocular portion in dorsal view. Antennae short and stout, 0.9 mm long; preapical antennomeres strongly transverse. Anterior margin of labrum deeply and narrowly incised in the middle.

Pronotum (Fig. 4) 1.1 times as broad as long and indistinctly broader than head; punctation similar to that of head; midline without impunctate band.

Elytra (Fig. 4) approximately as long as pronotum; punctation dense, but less so than that of head and pronotum, and less coarse than that of head and pronotum; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV undilated. Metatarsomere I shorter than the combined length of metatarsomeres II and III.

Abdomen finely and densely punctate; interstices without microsculpture; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII convex.

♂: sternite VIII (Fig. 21) weakly oblong, with broadly and weakly concave posterior margin; aedeagus 0.62 mm long and shaped as in Figs 19–20.

Comparative notes: *Orsunius floreni* is distinguished from all its congeners by the distinctive structure of the aedeagus. It is additionally characterised by a male sternite VIII with a broadly concave posterior margin, by conspicuously coarse, dense, and umbilicate punctation of the head and pronotum, and by short and stout antennae. For illustrations of other species of the genus see Assing (2011, 2014, 2015, 2020).

Distribution and natural history: The type locality is situated in Tawau Hills (Malaysia: Sabah), North Borneo. The holotype was collected from *Microcos antidesmifolia* by canopy fogging.

Orsunius incitatus spec. nov.

urn:lsid:zoobank.org:act:8CBA3AE5-0757-46D2-89FD-5ABA7C41C319

(Figs 5, 11, 22–24)

Type material: Holotype ♂: "Tawau Hills, My, N4 24.330 E117 53.525, Aporusa acuminatissima 58, A. Floren 06.09.2009 / Holotypus ♂ *Orsunius incitatus* sp. n. det. V. Assing 2022" (cAss). Paratype ♀: same data as holotype (cAss).

Etymology: The specific epithet (Latin, adjective: aroused) alludes to the shape of the ventral process of the aedeagus (lateral view).

Description: Body length 3.6–3.7 mm; length of forebody 2.0 mm. Habitus as in Fig. 5. Colouration: head black; pronotum blackish-brown to black; elytra reddish to blackish-brown with the humeral angles and the posterior margins diffusely paler; abdomen blackish-brown with the posterior margins of the tergites diffusely and narrowly paler; legs reddish-yellow; antennae reddish.

Head (Fig. 11) weakly transverse, 1.06–1.08 times as broad as long; lateral margins behind eyes parallel in dorsal view; posterior angles moderately marked; punctation rather sparse and fine; interstices without microsculpture. Eyes large, approximately as long as postocular portion in dorsal view, or nearly so. Antennae 1.1–1.2 mm long. Anterior margin of labrum

deeply incised in the middle. Mandibles each with three rather short teeth.
Pronotum (Fig. 11) approximately 1.15 times as broad as long and as broad as head; lateral margins weakly sinuate; punctation similar to that of head; midline with somewhat irregular and rather broad impunctate band; interstices without microsculpture.
Elytra (Fig. 11) slightly longer than pronotum; punctation much denser and finer than that of head and pronotum; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV weakly dilated, without sexual dimorphism. Metatarsomere I shorter than the combined length of metatarsomeres II and III.
Abdomen finely and densely punctate and pubescent; interstices without microsculpture, glossy; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex.
♂: sternite VIII (Fig. 24) weakly transverse, with V-shaped posterior excision; aedeagus (Figs 22–23) 0.6 mm long; ventral process short and very slender both in lateral and in ventral view.

Comparative notes: This species is distinguished from all its congeners particularly by the distinctive shape of the aedeagus. The only other species whose ventral process faintly resembles that of *O. incitatus* is *O. affimbriatus* Assing, 2015 from South China (Guangdong), from which the new species differs by completely different colouration (*O. affimbriatus*: body uniformly reddish), a less transverse head with much larger eyes, much longer elytra, the presence of hind wings and a palisade fringe at the posterior margin of tergite VIII, a transverse male sternite VIII with a much deeper posterior excision, and a symmetric aedeagus (asymmetric in *O. affimbriatus*). For illustrations of *O. affimbriatus* see Assing (2015).

Distribution and natural history: The type locality is situated in Tawau Hills (Malaysia: Sabah), North Borneo. The specimens were collected from *Aporosa acuminatissima* by canopy fogging. The female paratype is teneral.

Orsunius flavoniger spec. nov.

urn:lsid:zoobank.org:act:97D8ABCE-B7F1-4938-ADCD-9DB44E0FB507
(Figs 6–7, 25–27)

Type material: Holotype ♂: "Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / MF2, 19.3.96, A. Floren / Holotypus ♂ *Orsunius flavoniger* sp. n. det. V. Assing 2022" (cAss). Paratypes: 3 ♂♂, 1 ♀ [♀ teneral]: same data as holotype (cAss); 1 ♂: "Kinabalu Park, Sorinsim, SW III 40 Years / Bergil 3, 6.3.97, A. Floren" (cAss).

Etymology: The specific epithet is an adjective composed of the Latin adjectives flavus (yellow) and niger (black). It alludes to the distinctly bicoloured elytra.

Description: Body length 4.3–5.5 mm; length of forebody 2.5–2.7 mm. Habitus as in Fig. 6. Colouration: forebody blackish with the posterior margins of the elytra sharply yellow; abdomen yellow with the posterior margins of tergites VII and VIII rather broadly and sharply yellow; legs reddish with darker femora; antennae red.
Head (Fig. 7) transverse, 1.10–1.15 times as broad as long; lateral margins behind eyes parallel in dorsal view; posterior angles marked; punctation dense and rather coarse; interstices without microsculpture. Eyes moderately large, approximately 0.6–0.7 times as long as postocular portion in dorsal view. Antennae approximately 1.2 mm long. Anterior margin of labrum deeply and narrowly incised in the middle. Mandibles each with two stout teeth.
Pronotum (Fig. 7) approximately 1.15 times as broad as long and slightly narrower than head; lateral margins weakly sinuate; punctation similar to that of head; midline with more or less distinct, narrow impunctate band; interstices without microsculpture.
Elytra (Fig. 7) approximately as long as pronotum; punctation finer than that of head and pronotum; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV slender, not dilated. Metatarsomere I as long as the combined length of metatarsomeres II and III, or nearly so.
Abdomen finely and densely punctate and pubescent; interstices with very shallow microsculpture, glossy; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex.
♂: sternite VIII (Fig. 27) weakly transverse, posterior margin of distinctive shape, distinctly bisinuate; aedeagus (Figs 25–26) 0.57–0.63 mm long; ventral process very slender in lateral view, basally broad and apically acute in ventral view.

Comparative notes: *Orsunius flavoniger* is distinguished from all other representatives of the genus by the morphology of the aedeagus and by the shape of the male sternite VIII, from the vast majority of species additionally by the colouration. The only other congener with a similarly coloured forebody is *O. tortus* Assing, 2020 from Thailand, from which *O. flavoniger* also differs by smaller and less convex eyes and much coarser and less dense punctation of the forebody. For illustrations of *O. tortus* see Assing (2020).

Distribution and natural history: The species is currently known from two localities in Kinabalu Park (Malaysia: Sabah), Borneo. The specimens were collected from *Vitex pinnata* and an unidentified species of Meliaceae by canopy fogging. The female paratype is teneral.

Orsunius curvicollis spec. nov.

urn:lsid:zoobank.org:act:41682909-8821-42B8-B5B0-4E3B6653D674
(Figs 8, 12, 28–30)

Type material: Holotype ♂: "Kinabalupark PHS, Aporusa sp., Lower Montane Mixed dipterocarp / AF1/ F1, 3.3.96, A. Floren / Holotypus ♂ *Orsunius curvicollis* sp. n. det. V. Assing 2022" (cAss). Paratype ♀: same data as holotype (cAss).

Etymology: The specific epithet is an adjective composed of the Latin adjective curvus (bent, curved) and the adjectival suffix -collis (of the neck). It alludes to the distinctly sinuate lateral margins of the pronotum.

Description: Small species; body length 2.5–2.6 mm; length of forebody 1.25–1.35 mm. Habitus as in Fig. 8. Colouration: forebody dark-brown to black with the posterior margin of the elytra broadly bright yellow; abdomen dark-brown to black; legs yellow with the femora infuscate; antennae yellow.
Head (Fig. 12) distinctly transverse, 1.18 times as broad as long, and somewhat wedge-shaped; lateral margins behind eyes slightly diverging in dorsal view; posterior angles marked; punctation moderately dense and very fine; interstices without microsculpture. Eyes large, slightly longer than postocular portion in dorsal view. Antennae 0.6–0.7 mm long. Anterior margin of labrum broadly excavate, this excavation acute in the middle. Mandibles each with two short teeth.
Pronotum (Fig. 12) approximately 1.2 times as broad as long and slightly broader than head; lateral margins strongly sinuate; punctation as dense as that of head, but even finer; midline without impunctate band; interstices without microsculpture.
Elytra (Fig. 12) approximately 1.2 times as long as pronotum; punctation less fine than that of pronotum; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV unmodified (not dilated), without sexual dimorphism. All tarsi very short; metatarsomere I shorter than the combined length of metatarsomeres II and III.
Abdomen finely and densely punctate; interstices without microsculpture, glossy; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex.
♂: sternite VIII (Fig. 30) weakly transverse, with weakly convex posterior margin; aedeagus (Figs 28–29) minute, 0.25 mm long; ventral process short and weakly sclerotized; internal sac with two long sclerotised apical structures.

Comparative notes: This species is assigned to *Orsunius* with some hesitation, since it differs from other species of the genus not only by the structure of the aedeagus and the shape of the male sternite VIII, but also by the shape of the labrum, the structure of the mandibles, and the shape of the head. It is distinguished from other congeners of similarly small size by the colouration and the strongly sinuate lateral margins of the pronotum alone. For illustrations of previously described *Orsunius* species see Assing (2011, 2014, 2015, 2020).

Distribution and natural history: The type locality is situated near Poring Hot Springs (Malaysia: Sabah), North Borneo. The specimens were collected from *Aporosa* sp. by canopy fogging.

Orsunius tricolor spec. nov.

urn:lsid:zoobank.org:act:0A219743-733A-4154-82EE-D6BA7A6581E1
(Figs 19, 13, 31–33)

Type material: Holotype ♂: "Mesilau, My, N6 2.687 E116 35.663, Vaccinium sp. 68, A. Floren 18.09.2009 / Holotypus ♂ *Orsunius tricolor* sp. n. det. V. Assing 2022" (cAss). Paratype ♂: "Mesilau, My, N6 2.69 E116 35.672, Phyllocladus hypophyllus 67, A. Floren 18.09.2009" (cAss).

Etymology: The specific epithet (Latin) alludes to the distinctly tricoloured forebody.

Description: Small species; body length 2.9–3.2 mm; length of forebody 1.7 mm. Habitus as in Fig. 9. Colouration: head black; pronotum bright reddish; elytra black with the humeral angles and the broad posterior margins yellowish-red; abdomen black with the apex (segments VIII–X and posterior portion of VII) reddish-yellow; legs yellowish-red with the femora darker; antennae reddish.
Head (Fig. 13) indistinctly transverse, approximately 1.05 times as broad as long; lateral margins behind eyes parallel in dorsal view; posterior angles moderately marked; punctation moderately dense and very fine; interstices without microsculpture. Eyes moderately large and weakly convex, slightly more than half as long as postocular portion in dorsal view. Antennae 0.8–0.9 mm long. Anterior margin of labrum with small, narrow, and moderately deep median excision.
Pronotum (Fig. 13) weakly oblong, approximately 1.05 times as long as broad and 0.9 times as broad as head; lateral margins straight; punctation similar to that of head; midline with weakly defined impunctate band; interstices without microsculpture.
Elytra (Fig. 13) approximately as long as pronotum; punctation fine and moderately dense; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV weakly dilated. Metatarsomere I shorter than the combined length of metatarsomeres II and III.
Abdomen finely and densely punctate; interstices with very shallow microsculpture visible only at high magnification (100 x); posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII truncate.

♂: sternite VIII (Fig. 33) weakly transverse, with weakly convex posterior margin; aedeagus (Figs 31–32) minute, 0.28 mm long; ventral process very slender in lateral view, somewhat shaped like an arrow-head in ventral view.

Comparative notes: As in the preceding species, the generic assignment of *O. tricolor* should be considered tentative. This species is distinguished from all other known representatives of the genus by the conspicuous colouration and an oblong pronotum alone. It is additionally characterised by the structure of the aedeagus and the shape of the male sternite VIII.

Distribution and natural history: The material was found in two close localities in Mesilau (Malaysia: Sabah), North Borneo. The specimens were collected from *Vaccinium* sp. and *Phyllocladus hypophyllus* by canopy fogging.

Orsunius arboris spec. nov.

urn:lsid:zoobank.org:act:F3A3DD0D-3B71-4FE3-9D76-A8C5139E7AB2

(Figs 10, 14, 34–37)

Type material: Holotype ♂: "Bergil, My SW3, N6 17.204 E116 42.305, V. pinnata B8 F2, A. Floren 10.3.97 / Holotypus ♂ *Orsunius arboris* sp. n. det. V. Assing 2022" (cAss). Paratypes: 2 ♂♂, 2 exs.: same data as holotype (cAss); 2 ♂♂, 1 ♀: "CR Ulu Senagang, My, N5 21.875 E116 01.582, Dendrocnide sp. 1 14, A. Floren 17.08.2009" (cAss); 3 exs.: "CR Ulu Senagang, My, N5 21.875 E116 01.582, Dendrocnide sp. 1 15, A. Floren 17.08.2009" (cAss); 1 ex.: "Bergil, My SW3, N6 17.204 E116 42.305, V. pinnata B2 F5, A. Floren 14.3.97" (cAss); 3 ♂♂, 3 ♀♀, 1 ex.: "Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / Meliaceae, 9.2.97, A. Floren" (cAss); 4 exs.: "Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / Meliaceae, 7.11.96, A. Floren" (cAss); 2 exs.: "Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, A. lagenocarpa 75 F1, A. Floren 23.10.96" (cAss); 1 ex.: "Kinabalulu [sic] NP, My PW, N6 02.903 E116 41.953, A. lagenocarpa 79 F1, A. Floren 29.10.96" (cAss); 2 exs.: "Kinabalupark PHS, Aporusa lagenocarpa, Lower Montane Mixed dipterocarp / DOPAN 26.2.96, A. Floren" (cAss); 1 ex., "Kinabalupark PHS, Aporusa lagenocarpa, Lower Montane Mixed dipterocarp / A5/ F3, 24.3.96, A. Floren" (cAss); 1 ex., "Kinabalupark PHS, Aporusa sp., Lower Montane Mixed dipterocarp / A13/ F1, 26.3.96, A. Floren" (cAss); 2 exs.: "Kinabalupark PHS, Aporusa lagenocarpa, Lower Montane Mixed dipterocarp / A52/F3, 27.2.96, A. Floren" (cAss); 2 exs.: "Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / MF2, 19.3.96, A. Floren" (cAss); 2 exs.: "Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / MF1, 18.3.96, A. Floren" (cAss); 1 ex.: "Kinabalupark PHS, Meliaceae sp., Lower Montane Mixed dipterocarp / MF5, 22.3.96, A. Floren" (cAss); 2 exs.: "Kinabalu Park, 6°5'N, 116°33'E, Lowland mixed Dipterocarp Forest / B 11, 30.3.98, A. Floren" (cAss); 1 ex.: "Kinabalu Park, 6°5'N, 116°33'E, Lowland mixed Dipterocarp Forest / A. maingayi, 28.3.98, A. Floren" (cAss); 1 ex.: "Kinabalu, PHS Garden, 6°5'N, 116°3'E MY, Durio zibethinus B1, A. Floren 23.1.01" (cAss); 1 ex.: "Kinabalu Park, 6°5'N, 116°33'E, Lowland mixed Dipterocarp Forest / Dacroides laxa, 29.3.98, A. Floren" (cAss); 3 exs.: "Kinabalupark PHS, Aporusa subcaudata, Lower Montane Mixed dipterocarp / A50/ F5, 23.2.96, A. Floren" (cAss); 2 exs.: "Kinabalu PHS, Aporusa sp., Lower Montane Mixed dipterocarp / APO1, 18.10.96, Jens & Kerstin" (cAss); 1 ex.: "Kinabalu PHS, Aporusa sp., Lower Montane Mixed dipterocarp / APO7, 24.10.96, Jens & Kerstin" (cAss); 1 ex.: "Poring Hot Springs, My, N6 03.547 E116 42.179, Palagium sericeum 5, A. Floren 09.08.2009" (cAss); 3 exs.: "Kinabalu Park, Sorinsim, SW III 40 Years / Bergil 3, 6.3.97, A. Floren" (cAss); 3 exs.: "Kinabalu Park, 6°5'N, 116°33'E, Sorinsim III, 40 yr. / Bergil 4, 6.3.97, A. Floren" (cAss); 11 ex.: "Kinabalu Park, 6°5'N, 116°33'E, SW II, 15 yrs. / Bergil 5, 27.2.97, A. Floren" (cAss); 1 ex.: "Kinabalu Park, 6°5'N, 116°33'E, Sorinsim III, 40 yr. / Bergil 5, 7.3.97, A. Floren" (cAss); 7 exs.: "Kinabalu Park, 6°5'N, 116°33'E, Sorinsim III, 40 yr. / Bergil 6, 7.3.97, A. Floren" (cAss); 3 exs.: "Kinabalu Park, Sorinsim, SW II, 15 Years / Bergil 7, 2.3.97, A. Floren" (cAss); 3 exs.: "Kinabalu Park, Sorinsim, SW II, 15 Years / Bergil 8, 2.3.97, A. Floren" (cAss); 1 ex.: "Kinabalu Park, Sorinsim II, 15 yr. / Bergil 8, 10.3.97, A. Floren" (cAss); 5 exs.: "Kinabalu Park, Sorinsim III, 40 yr. / Bergil 8, 2.3.97, A. Floren" (cAss); 4 exs.: "Kinabalu Park, Sorinsim III, 40 yr. / Bergil 8, 8.3.97, A. Floren" (cAss); 1 ex.: "Kinabalu Park, Sorinsim III, 40 yr. / Bergil 9, 8.3.97, A. Floren" (cAss); 1 ex.: "Kinabalu Park, 6°5'N, 116°33'E, Sorinsim III, 40 yr. / Bergil 10, 8.3.97, A. Floren" (cAss); 2 exs.: "Kinabalu Park, 6°5'N, 116°33'E, Sorinsim II, 15 yr. / Bergil 11, 10.3.97, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A74/F1, ??.10.1993, A. Floren" (cAss); 2 exs.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A50/F1, 29.iv.1992, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A8/F1, 20.V.1992, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A51/F5, ?.II.1993, A. Floren" (cAss); 3 exs.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A73/F2, 21.10.1993, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A73/F1, 19.III.1993, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A73/F6, 27.10.1993, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp

Fst. > 650 m / Fog A73/F3, 2?.III.1993, A. Floren" (cAss); 2 exs.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A50/F3, 22.I.1993, A. Floren" (cAss); 4 exs.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A72/F1, 23.III.1993, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Xanthophyllum affine, Lower Montane Mixed dipterocarp Fst. > 650 m / Fog XA11/F1, 12.V.1992, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Xanthophyllum affine, Lower Montane Mixed dipterocarp Fst. > 650 m / Fog XA12/F3, 21.iV.1992, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A57/F2, ??.ii.1993, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A52/1, 9.iV.1992, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A62/F2, 2?.I.1993, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A74/F1, 30.10.1993, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A62/F1, 2.iV.1992, A. Floren" (cAss); 1 ex.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A74/F1, 30.10.1993, A. Floren" (cAss); 6 exs.: "SABAH: Poring Hot Spring, Aporusa Sp., Lower Montane Mixed dipterocarp Fst. > 650 m / Fog A70/F1, 19.III.1993, A. Floren" (cAss); 1 ex.: "Poring Hot Springs, My, N6 03.458 E116 42.208, Xanthophyllum tenue 3, A. Floren 09.08.2009" (cAss); 1 ex.: "Poring Hot Springs, My, N6 03.547 E116 42.181, Xanthophyllum tenue 4, A. Floren 09.08.2009" (cAss); 1 ex.: "Poring Hot Springs, My, N6 03.462 E116 42.205, Ficus parietalis 2, A. Floren 09.08.2009" (cAss); 1 ♀: "Topou, My SW1, N6 17.278 E116 42.417, M. umbellata B5 F7, A. Floren 11.3.97" (cAss); 1 ex.: "Kinabalu Park, Sorinsim, SW I 5 Years / Topou 1, 16.2.97, A. Floren" (cAss); 2 exs.: "Kinabalu Park, Sorinsim, SWI 5 Years / Topou 10, 24.2.97 A. Floren" (cAss); 1 ex.: "Tawau Hills, My, N4 24.379 E117 53.533, Aporusa acuminatissima 60, A. Floren 06.09.2009" (cAss); 2 exs.: "Tawau Hills, My, N4 24.187 E117 53.551, Aglaia sp. 54, A. Floren 06.09.2009" (cAss); 1 ex.: "Tawau Hills, My, N4 24.335 E117 53.515, Aporusa grandistipulata 59, A. Floren 06.09.2009" (cAss); 4 ex.: "Tawau Hills, My, N4 24.330 E117 53.525, Aporusa accuminatissima [sic] 61, A. Floren 06.09.2009" (cAss); 1 ex.: "Tawau Hills, My, N4 24.396 E117 53.549, Aporusa confusa 62, A. Floren 08.09.2009" (cAss); 2 exs.: "Tawau Hills, My, N4 24.208 E117 53.549, Aporusa lagenocarpa 56, A. Floren 06.09.2009" (cAss); 1 ex.: "Tawau Hills, My, N4 24.014 E117 53.406, Mallotus caudatus 48, A. Floren 05.09.2009" (cAss); 3 exs.: "Malaysia Borneo, bei Keningau 10 yrs., Clerodendron sp. B4, A. Floren, 19.2.01" (cAss); 1 ex.: "Malaysia Borneo, bei Keningau 20 yrs., Melanolepis sp. B3, A. Floren, 18.2.01" (cAss); 1 ex.: "Malaysia Borneo, bei Keningau 50 yrs., Melanolepis sp. B7, A. Floren, 21.2.01" (cAss). Some of the paratypes are deposited in MNB.

Etymology: The specific epithet is the genitive of the Latin noun arbor (tree) and alludes to the fact that all the type specimens were collected by canopy fogging.

Description: Small species; body length 2.5–3.3 mm; length of forebody 1.4–1.7 mm. Habitus as in Fig. 10. Colouration: body pale-reddish to dark-reddish except for a broad transverse blackish band extending across posterior three-fifths of elytra, this band not reaching posterior margins of elytra; legs yellow to yellowish-red; antennae reddish.

Head (Fig. 14) of rather variable shape, usually 1.10–1.15 times as broad as long; lateral margins behind eyes parallel or weakly converging in dorsal view; posterior angles moderately marked; punctation dense and moderately coarse; interstices without microsculpture. Eyes moderately large and distinctly convex, approximately as long as postocular portion in dorsal view. Antennae 0.7–0.8 mm long. Anterior margin of labrum with small V- or U-shaped median excision. Mandibles with two or three teeth.

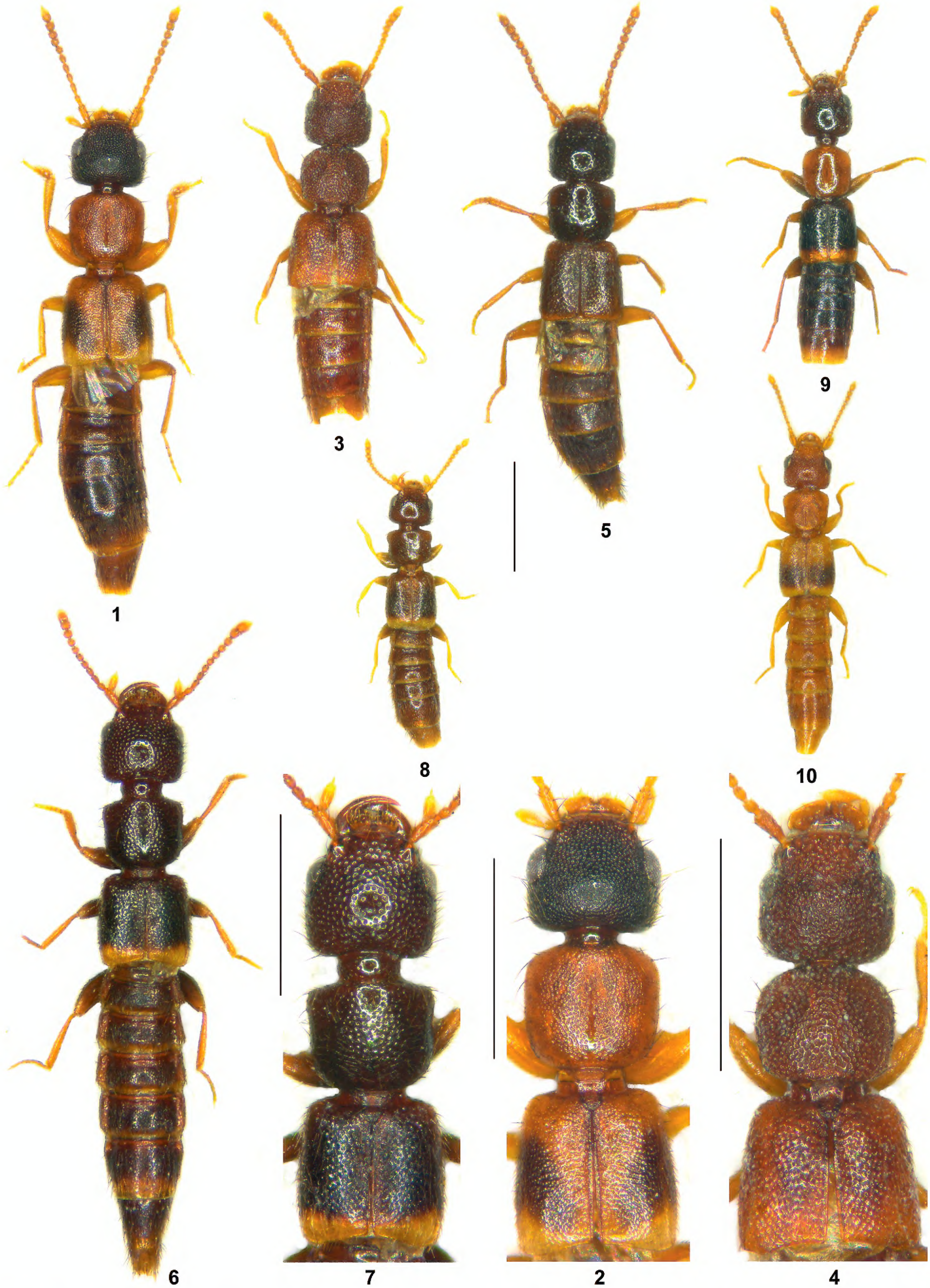
Pronotum (Fig. 14) approximately as broad as long, broadest at anterior angles, and slightly narrower than head; lateral margins straight; punctation extremely dense, granulosely umbilicate, and largely confluent, rendering the disc nearly matt; midline with very narrow, often incomplete impunctate band.

Elytra (Fig. 14) approximately 1.2 times as long as pronotum; punctation fine and rather dense; interstices without microsculpture. Hind wings fully developed. Protarsomeres I–IV not distinctly dilated, without sexual dimorphism. Metatarsomere I shorter than the combined length of metatarsomeres II and III.

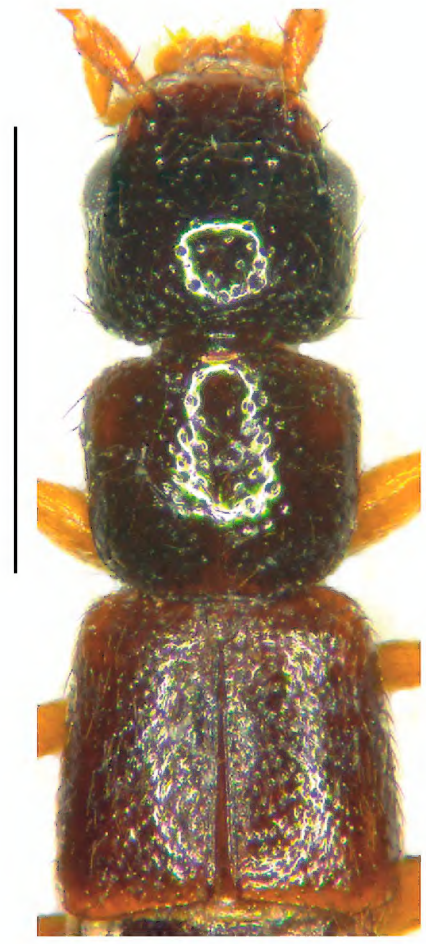
Abdomen finely and densely punctate; interstices without microsculpture except near anterior margins of tergites; posterior margin of tergite VII with palisade fringe; posterior margin of tergite VIII weakly convex.

♂: sternite VIII (Fig. 37) approximately as long as broad, with convex posterior margin; aedeagus (Figs 34–36) minute and weakly sclerotised, 0.23–0.25 mm long (without apical internal structures); ventral process weakly sclerotised and short; internal sac with a pair of long and moderately sclerotised apical structures and with a basal pair of dark series of small spines.

Comparative notes: Among the known *Orsunius* species, this species is characterised by the conspicuous colouration, the punctation of the pronotum, and by the structure of the aedeagus. In view of the morphology of the aedeagus, which considerably differs from that of previsouly described *Orsunius* species, the generic assignment should be considered preliminary.



Figs 1–10: *Orsunius weigeli* (**1–2**), *O. floreni* (**3–4**), *O. incitatus* (**5**), *O. flavoniger* (**6–7**), *O. curvicollis* (**8**), *O. tricolor* (**9**), and *O. arboris* (**10**): 1, 3, 5–6, 8–10 – habitus; 2, 4, 7 – forebody. Scale bars: 1.0 mm.



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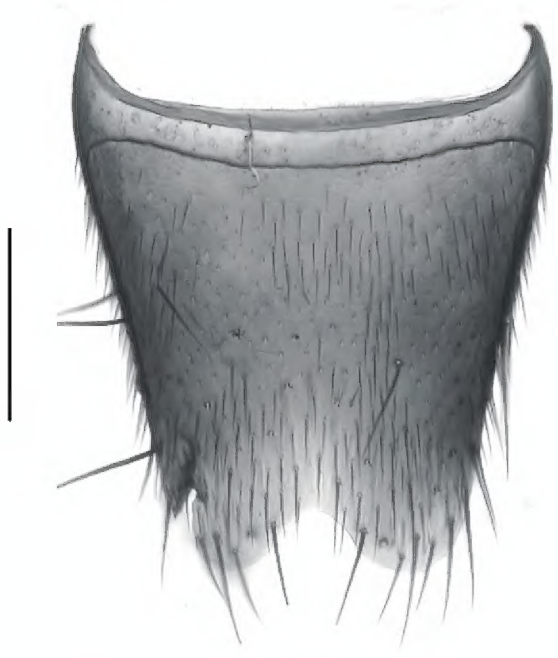

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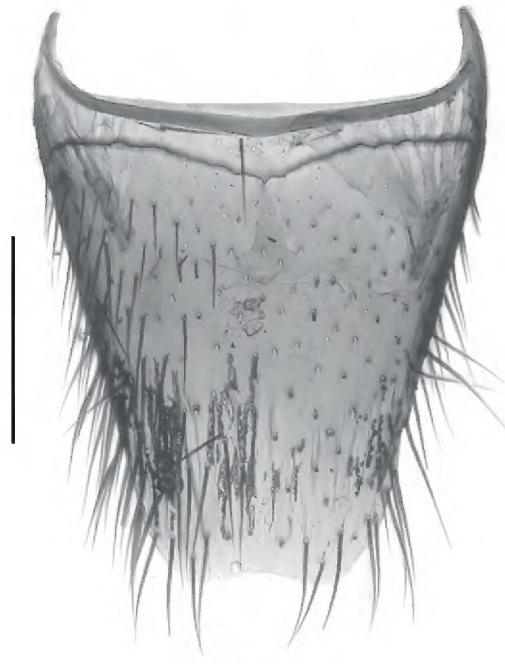

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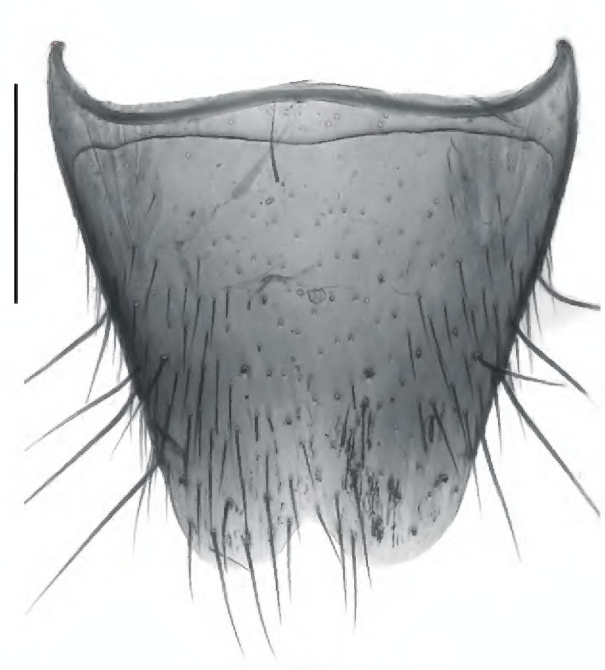

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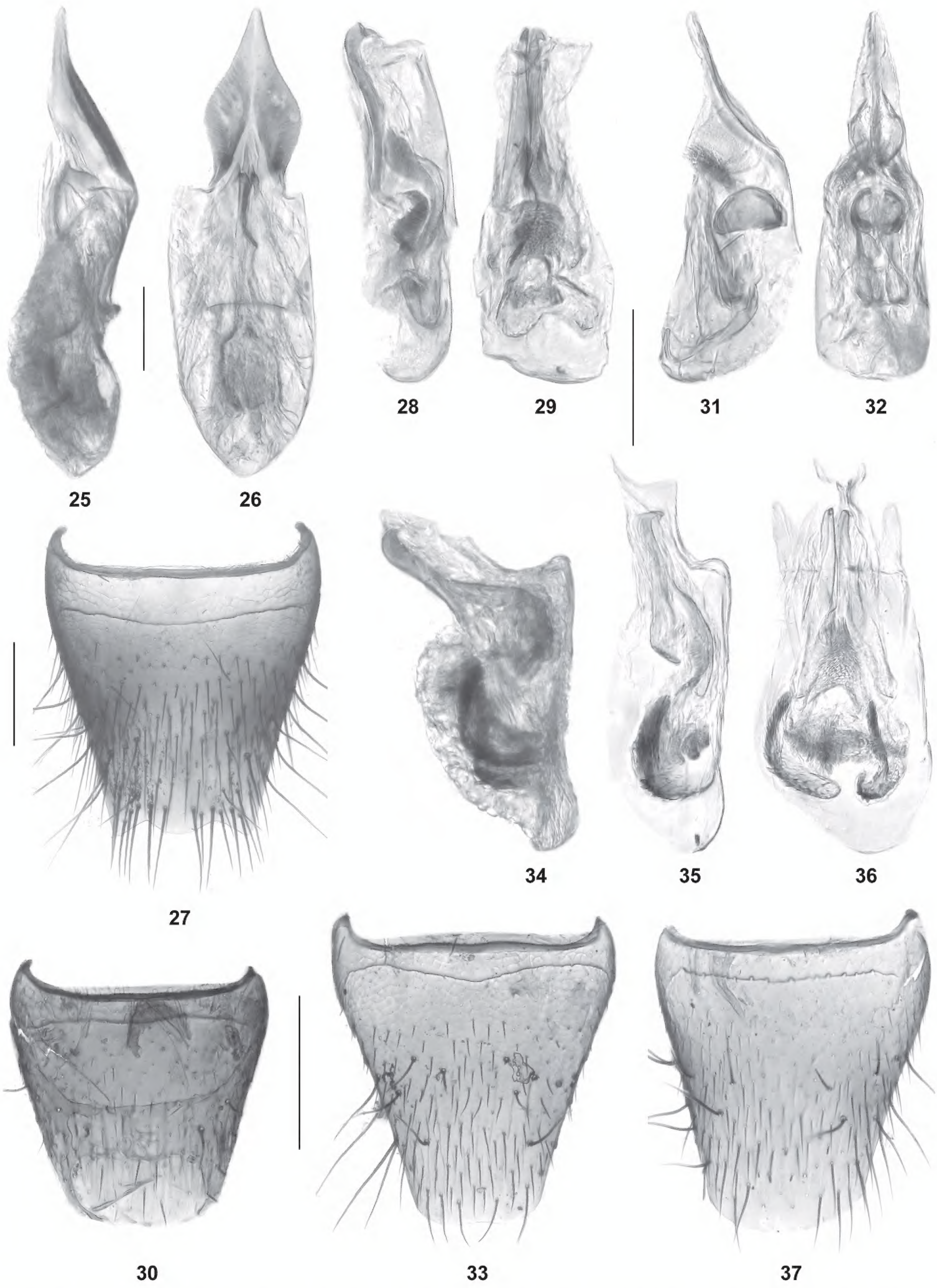
Figs 11–24: *Orsunius incitatus* (**11, 22–24**), *O. curvicollis* (**12**), *O. tricolor* (**13**), *O. arboris* (**14**), *O. weigeli* (**15–18**), and *O. floreni* (**19–21**): 11–14 – forebody; 15–17, 19–20, 22–23 – aedeagus in lateral and in ventral view; 18, 21, 24 – male sternite VIII. Scale bars: 11–14: 1.0 mm; 15–24: 0.2 mm.



Figs 25–37: *Orsunius flavoniger* (**25–27**), *O. curvicollis* (**28–30**), *O. tricolor* (**31–33**), and *O. arboris* (**34–37**): 25–26, 28–29, 31–32, 34–36 – aedeagus in lateral and in ventral view; 27, 30, 33, 37 – male sternite VIII. Scale bars: 27, 30, 33, 37: 0.2 mm; 25–26, 28–29, 31–32, 34–36: 0.1 mm.

Distribution and natural history: The material was found in several localities in the Kinabalu region and in Tawau Hills (Malaysia: Sabah), North Borneo. The specimens were collected in large numbers by canopy fogging of various tree species (*Aglaia* sp., *Aporosa lagenocarpa*, *A. acuminatissima*, *A. confusa*, *A. grandistipulata*, *A. maingayi*, *A. subcaudata*, *A.* sp., *Clerodendron* sp., *Dacroides laxa*, *Dendrocnide* sp., *Durio zibethinus*, *Ficus parietalis*, *Mallotus caudatus*, *Melanolepis* sp., *Melochia umbellata*, *Palagium sericeum*, *Vitex pinnata*, *Xanthophyllum affine*, *X. tenue*, unidentified species of Meliaceae), suggesting that this species is arboricolous. Teneral specimens were found in January, February, October, and November.

Orsunius spec. 1

Material examined: 2 ♀♀: "Tawau Hills, My, N4 24.021 E117 53.411, Symplocos sp. 52, A. Floren 05.09.2009" (cAss).

The above females are of similar colouration as *O. arboris*, but distinguished by larger size and a larger head. They undoubtedly represent an undescribed species.

Orsunius spec. 2

Material examined: 1 ♀: "Kinabalu Park, 6°5'N, 116°33'E, Sorinsim III, 40 yr. / Bergil 5, 7.3.97, A. Floren" (cAss).

There is little doubt that the above female represents an undescribed species. A male would be required for an adequate description.

Acknowledgements

I am indebted to Andreas Floren (University of Würzburg) for the generous gift of numerous Staphylinidae collected by canopy fogging in Sabah (Borneo) and to Andreas Weigel (Wernburg) for the gift of Staphylinidae collected with light traps in North Vietnam. Peter Sprick (Hannover) extracted the Paederinae from the Bornean samples. Benedikt Feldmann (Münster) and Michael Schülke (Berlin) proof-read and reviewed the manuscript.

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